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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,130	03/11/2004	Tomoyuki Yoda	250275US2	4673
22850	7590	07/27/2005		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
			EXAMINER CHARIOUL, MOHAMED	
			ART UNIT 2857	PAPER NUMBER

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary	Application No. 10/797,130	Applicant(s) YODA, TOMOYUKI	
	Examiner Mohamed Charioui	Art Unit 2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. **Claims 1-14** are objected to because of the following informalities: claim 1 recites the limitation "the threshold values smooth processing on" in page 36, line 11. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claims 7 and 13 are objected to because of the following informalities:

Claim 7 recites the limitation "the falling and rising signals" in page 38, line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 also recites the limitation "the selected signal" in page 38, lines 16-17. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim 8 is objected to because of the following informalities: claim 8 recites the limitation "the signal" in page 38, line 25. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 9 is objected to because of the following informalities: claim 9 recites the limitation "the signal in the logic circuit" in page 39, lines 7-8. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 10 is objected to because of the following informalities: claim 10 recites the limitation "the signal in the logic circuit" in page 39, lines 15-16. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 11 is objected to because of the following informalities: claim 11 recites the limitation "the signal in the logic circuit" in page 39, lines 23-24. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 12 is objected to because of the following informalities: claim 12 recites the limitation "the signal in the logic circuit" in page 40, lines 5-6. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 13 is objected to because of the following informalities: claim 13 recites the limitation "the signal in the logic circuit" in page 40, lines 13-14. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claims 14-18 are objected to because of the following informalities:

Claim 14 recites the limitation "the threshold values" in page 40, line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 also recites the limitation "the malfunction factors" in page 40, line 21. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claims 15 and 19 are objected to because of the following informalities: claim 15 recites the limitation "the rising and falling signals" in page 41, lines 7-8. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 16 is objected to because of the following informalities: claim 16 recites the limitation "the included error criterion" in page 41, line 12. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim 17 is objected to because of the following informalities: claim 17 recites the limitation "the signal" in page 41, line 21. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites "a plurality of the error criteria ordering to eliminate an included error criterion when any one of a plurality of error criteria is included in another error criterion" in page 38, lines 5-8". It is unclear from the claim how many plurality of the error criterion are there and whether "another error criterion" is part of any plurality of error criterion or not. Therefore, claim 6 is considered indefinite.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 2, 5, 7-14 and 16-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Savithri et al. (U.S. 2003/0079191).

As per claims 1, 5, 14 and 16, Savithri et al. teach an error information storage unit storing threshold values of malfunction factors that create a malfunction of a victim receiver cell due to a noise (see paragraphs [0014], [0016], [0031] and [0060]); an error criterion generation section which selects the threshold values from the error information storage unit, and generates an error criterion according to the victim receiver cell by plotting the threshold values and conducting the threshold values smooth processing on (see paragraphs [0014] and [0033]); a noise analysis section configured to measure the malfunction factors; and a comparison section configured to compare the measured malfunction factors to the error criterion, and to judge whether the noise will create a malfunction of the victim receiver cell when the malfunction factors meet the error criterion (see paragraphs [0033] and [0014]).

As per claims 2, 7 and 17, Savithri et al. further teach that the error information storage unit stores at least one of the noise voltage in a rising signal transmitted to the victim receiver cell, the noise duration in a rising signal transmitted to the victim receiver cell, the noise voltage in a falling signal transmitted to the victim receiver cell, the noise duration in a falling signal transmitted to the victim (see paragraph [0046]).

As per claim 8, Savithri et al. further teach a logic connection information analysis section configured to select a signal which causes the victim receiver cell to operate from among the falling and rising signals and to order the error criterion generation section to eliminate the error criterion relating to the malfunction factors

created in the signal that is different from the selected signal (see paragraphs [0003] and [0041]).

As per claims 9-13 and 18-20, Savithri et al. further teach a logic connection information input unit configured to transmit data to be designed for a layout pattern of a logic circuit; and a simulation executing section simulate waveforms of the noise and the logic circuit (see paragraph [0037]).

Allowable Subject Matter

4. **Claims 3, 4 and 15** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome all the objections.

The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record teaches or suggests a net analysis section configured to distinguish a net through which a clock signal is propagated from another net through which a general signal other than the clock signal is propagated and to order the error criterion generation section to eliminate the error criterion relating to the malfunction factors generated in the rising and falling signals propagated through the net through which the general signal is propagated in combination with the rest of the claim limitations.

Prior art

5. The prior art made record and not relied upon is considered pertinent to applicant's disclosure:

Aingaran et al. ['845] disclose system and method for topology based noise estimation of submicron integrated circuit designs.

Chandra et al. ['402] disclose system and method for performing assertion-based analysis of circuit designs.

Savithri et al. ['131] disclose method for verification of crosstalk noise in CMOS design.

Young et al. ['109] disclose method of simulation for gate oxide integrity check on an entire IC.

Purks ['695] discloses system and method for estimating crosstalk between signal lines in a circuit.

Contact information

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohamed Charioui whose telephone number is (571) 272-2213. The examiner can normally be reached Monday through Friday, from 9 am to 6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S Hoff can be reached on (571) 272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mohamed Charioui

7/23/05



MARC S. HOFF
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